

TEACHING PROGRAMME

for

”Ships assistants,
Basic module”

Training Ship DANMARK

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martec
MARITIME AND POLYTECHNIC COLLEGE

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PURPOSE

According to Order no. 1332 of 17 December 2012 issued by the Danish Agency for Higher Education and Educational Support, the purpose of the training programme for ship's assistants (basic level) is to provide persons who would like to be employed within the maritime field with basic theoretical and practical vocational training making them capable of carrying out any type of common practical work within the deck and engine area in an appropriate manner in terms of safety.

The preparation of this training programme is based upon a repeatedly held Network Seminar for Maritime Educational Institutions offering the basic module for ship's assistants and according to the following Orders issued by the Danish Agency for Higher Education and Educational Support;

- Bekendtgørelse nr. 466 af 08-05-2013, med ændringer af 30/05 2012 & 04/07 2013, om maritime uddannelser
- Bekendtgørelse nr. 1289, 14/12 2009, med ændringer af 16/8 2012 & 16/12 2013, om prøveafholdelse og bedømmelse af deltagere ved de maritime uddannelser (eksamensbekendtgørelsen)
- Bekendtgørelse nr. 1373 af 16/12 2009 om godkendelse og kvalitetssikring m.v. af maritime uddannelser

ORGANIZATION

Depending on the duration of the voyage, the crews competencies and the options given onboard, *the* major part of this programme is carried out onboard the Training Ship DANMARK, and the remaining part at MARTEC's shore facilities. In practice this means that the education is divided up in approximately 15 weeks on board the ship and approximately 5 weeks ashore at MARTEC and external partners.

The teaching programme for the mechanical workshop is not contained in this programme, but in a programme of its own.

TRAINING SHIP DANMARK AS A LEARNING ENVIRONMENT

As learning environment the ship contributes both with education and formation (social competencies) to the trainees. Both aspects – education and formation – are essential to transform a trainee to a ships assistant. It is characteristic that learning on board a training ship does not only take place in the classroom but in high degree outside the classroom.

On board training takes place on board a ship in operation day and night and by involving the trainees in the operation they achieve knowledge about every days live, routines and watch-keeping (look-out, helmsman, duty trainee on the bridge, watchman on deck and in the engine room); especially watch-keeping is an essential part of the education and by conducting it in practice on board in real situation the trainees achieve knowledge about the purpose, meaning and importance of the issue – and how to conduct watch-keeping in its essence.

Handling a sailing vessel, rig- and sail maneuvers, demands that many jobs can only be carried out in groups, which means that the trainees are forced to cooperate in order to get things done in an efficient manner. That is also called team work or teambuilding.

Having 40 trainees living together in a single room also creates cooperation. They have to adapt to and get along with each other - and pay attention to mutual respect, carefulness and helpfulness. In that respect they are improving their social skills during the entire voyage lasting for 15 weeks.

Regularly – at least every fortnight - the trainees (in groups) are given time to talk about social problems and how to solve social problems if any are present. During those regularly meetings the trainees also have the opportunity to talk about technical or other ‘seamanlike’ problems on board the ship with the purpose to bring up new solutions or ideas for development.

Furthermore, in the start of the voyage, a ‘brain trust’ will be established. By expectations for ‘open-minded’ approaches and attitudes the purpose is to put attention to the importance of entrepreneurship and improvements in work processes. The trainees have opportunity to bring up new ideas and solutions to improve the daily operation of the ship in general or whatsoever that contributes to improvement and / or development of the education and work processes.

The trainees are actively participating in ordinarily occurring work on board the ship, starting with instructions from the crew they achieve knowledge; and during the voyage with the continuously participating of the trainees in ordinarily occurring work, then they later on achieve skills and competences. Especially maintenance in general on deck or in engine room, greasing, painting, rigging gangway, pilot ladder, readiness to go alongside etc., makes it possible to involve the trainees in cross-disciplinary topics for exercises and needed projects.

When doing maintenance, craftsmanship and sail maneuvers on board, the trainees are also urged to think and talk about risk assessments. Especially maintenance on deck and in engine room and also ordinarily occurring work including cleaning and other suitable task on board, makes it relevant to involve the trainees in the using and the developing of work place instructions, work place risk assessments, work place descriptions – and the vessels Safety Management System. When alongside in port the vessels ISPS system is in force, and the trainees obtain insight about the system in use.

Furthermore, every day ten trainees are having the function as ‘day man’ in the engine- and catering departments. By doing this the trainees obtain knowledge, skills and competences about ordinarily occurring work on board a ship.

The above mentioned fulfill the requirements in the ‘Order on education for ships-assistants’, Chapter 2, § 3 including 1) Knowledge, 2) Skills and 3) Competences.

All the side-effects by having the education conducted on board a ship in operation, definitely contributes to the transformation of the mindset of a trainee to the mindset of a responsible and skillful ships assistant.

The trainees are not going to have marks in their social skills, but instead each trainee will have a written personal statement according to the Q-system.

COOPERATION WITH THE MARITIME SECTOR

Training Ship DANMARK cooperates with other maritime institutions providing education for ordinary ships assistants and HF-SØ: Georg Stage, Nyborg Søfartsskole, Svendborg Søfartsskole and Marstal Navigationskole. Every 2nd year the institutions are gathered for a seminar. External speakers from the maritime sector do also participate.

Besides that, the ship has a certain flow in the crew staff; Up to 1/3 of the crew is changed every semester, which means that new crewmembers comes from other places in the maritime business industry, bringing new insight and knowledge to the education.

The Shipping Company Esvagt regularly hires new-educated ordinary ships-assistants; the Company office therefore cooperates with Esvagt in terms of discussing educational issues.

SHIPS ASSISTANTS TRAINING PROGRAMME

The training programme consists of the phases:

1) Craftsman School at MARTEC	8 ECTS
2) Maritime Training on the DANMARK	20 ECTS
3) Shore based courses: Fire Fighting, Safety at Sea and Maritime Security (ISPS)	2 ECTS
Total for the training programme:	30 ECTS

MERIT

A trainee providing evidence that he/she has passed equivalent exam in a topic and/or relevant STCW requirement is given merit at the exam/final test. However this eventual merit does not relieve any trainee from actively participating in all lessons on board the Training Ship DANMARK.

REQUIREMENTS

Below is a syllabus with all requirements to be completed to acquire a certificate as ship's assistant (basic level).

After the syllabus itself, all subjects and topics are additionally described, including the test form.

SYLLABUS

Craftsmanship, mechanical engineering and electro technology (12 ECTS credits).

Introductory training in craftsmanship: The student has obtained theoretical and practical craftsmanship skills so that the student can, on the one hand, develop these skills in the subsequent training and, on the other hand, carry out specific maintenance and repair tasks on board a ship.

Mechanical engineering and electro technology: The student has obtained knowledge of the most important machine components forming part of ship's machinery with regard to the purpose and primary function. Furthermore, the student has obtained knowledge of normal operational conditions for propulsion and auxiliary machinery and associated systems. Furthermore, the student has obtained basic knowledge of ships' electricity supply, including generators, system structure and consumers so that the student does not, during the subsequent duration of service expose himself to any personal risk or cause any break-downs.

Maritime subjects (18 ECTS credits).

Watchkeeping, international regulations for preventing collisions at sea and marine technology:

The student has obtained knowledge of the basic principles and current provisions on watchkeeping on board ships. Furthermore, the student meets the provisions of regulation II/4 of the STCW Convention during the first period of service. Finally, the student has through fundamental instruction of marine technology obtained theoretical and practical knowledge of ships' design, arrangement and equipment.

Social and labour law: The student has acquired knowledge about maritime social law, recruitment and signing on so that the student is prepared for the special conditions that apply on a ship.

Practical seamanship and maintenance: The student has acquired qualifications in practical seamanship in order to apply and develop these qualifications when carrying out practical tasks in connection with general work on board ships, maintenance, mooring, anchoring, lashing, pilot ladder, gangway and operation of winches.

Maritime English: The student has obtained the skills in maritime English necessary to understand common written guidelines and instructions and is able to communicate orally with regard to the daily duty on board, including watchkeeping duty and maritime safety.

Occupational safety/working environment: The student has obtained an understanding of the general safety and environmental conditions of ships. Furthermore, the student has obtained an understanding of the use of personal protective equipment and their correct use.

Fire-fighting: The student has obtained knowledge of fire-prevention and fire-fighting. The student has obtained an understanding of fire-protection in connection with maintenance and is able to act responsibly when using naked fire and inflammable substances. Finally, the student is able to use portable fire-extinguishers, have knowledge of fire-fighting equipment on board ships and acquire an understanding of ships' fire muster lists. The student acquires certificate according to STCW regulation VI/1.

Maritime safety and knowledge of maritime security: The student has obtained such knowledge of ships' safety organization and safety muster lists (boat, fire and rescue muster lists) as is necessary to take part in the muster lists at a functional level. The student is able to use personal life-saving appliances and survival techniques and under guidance and professional supervision is able to use and maintain ships' safety equipment, lifeboats and rafts. The student acquires certificate according to STCW regulation VI/1. Further the student has obtained knowledge of maritime security and acquires certificate according to STCW regulation VI/6.

Health education and first aid: The student has acquired the qualifications necessary to provide first aid in connection with accidents and sudden illness. Furthermore, the student has knowledge of general health conditions of special relevance to the shipping industry. The student acquires certificate for passed first aid course at the intermediate level offered by Danish First Aid and certificate according to STCW regulation VI/4.

Hygiene course for seafarers: The student has completed course in hygiene for seafarers handling provisions on board ships, cf. the qualification requirements in force. The student acquires separate certificate.

Basic tanker familiarization course: The student has obtained the qualifications required in connection with the health and safety risks associated with cargo handling on board tankers in

order to contribute to the work on board, while taking account of the regulations on health in force. The student acquires certificate according to STCW regulation V/1.

STUDY ACTIVITY

It is a requirement that a trainee is studying actively. If a teacher has the impression that a trainee is not studying actively, then the teacher must talk with the trainee about the issue and ask for changes in the trainees approach for studying. If the talk does not have any effect, the teacher must bring the case up at the daily teacher- meeting to investigate if any other teachers have the same problem with the same trainee. The outcome of the meeting can result in a verbal warning to the trainee or a warning in written form, telling about the consequences of lacking studying activities. If there still are no changes in the trainees approach for studying actively, then he / she will be given at written warning. It is up to the captains' judgment if the trainee is going to be expelled or not.

LEAVE

In very special circumstances, a trainee can be permitted leave from participation in this Teaching Programme. It is the Captain, who decides in every situation whether leave can be permitted.

ASSESSMENT

Assessment is carried out with reference to the Danish Order no. 1289 of 14 December 2009 regarding conduct of exams and assessment of participants at the maritime educations. Most topics in the programme, apart from the courses mentioned, will have an internal assessor. As far as it is practical possible, at least one professional from the Maritime Industry will be used as external assessor.

EXAMINATION AND EVALUATION

In the following all topics for the training programme are described, including tests. All tests are individual (No group tests).

TRAINING RECORD BOOK

The Training Record Book will be introduced to the trainees at the end of maritime training on the DANMARK.

EXEMPTIONS

Any rule in this Teaching Programme established solely by MARTEC can be exempted by MARTEC or by the captain of Training Ship DANMARK.

MODULE DESCRIPTIONS:

MECHANICAL ENGINEERING

Purpose

The trainee is to obtain knowledge of the most important machine components that are part of ship machinery with regard to purpose and primary function. Furthermore, the trainee has to be familiar with normal running conditions for propelling and auxiliary engines with the relevant systems, including knowledge of preparation, start, stopping and stripping of marine diesel engine installations.

Objective

Upon completing the education, the trainee should:

- Have knowledge of construction and function of a diesel engine, various constructions including two-cycle and four-cycle engines, and turbo chargers
- Have knowledge of the outline and function of the most common pumps, filters and valves
- Have knowledge of the general outline of common lubricating-, fuel-, starting air-, and cooling systems for diesel engines
- Have knowledge of normal working conditions, as well as knowledge of preparation, starting, stopping and stripping of marine diesel engine installations
- Be able to prepare, start, run and stop a diesel engine

Teaching aids and facilities

- The engine compartment
- Textbooks and handouts.
- The Executive Order on Watch keeping on Ships given by the Danish Maritime Authority.

The teaching comprises

- Fuel oil systems, including fuel types, fuel analysis, fuel contamination and cleaning
- Lubrication and lubricating systems, including plain bearings, lubrication of bearings, lubrication systems for main engines, cylinder lubrication, lubrication systems for the stuffing box and propeller shaft bearings
- Cooling systems, including raw water cooling systems, high- and low temperature fresh water cooling systems
- Compressed air and pneumatic systems, including starting air system and pneumatic control system
- High-pressure sea water systems, including fire-fighting and washing system, ballast- and discharge systems

Additional subjects can be included, such as:

- Surveillance, control and alarm systems for main- and auxiliary engines as well as surveillance systems for other areas
- Surveillance- and alarm panels on the bridge, including automatic fire alarm systems, lantern panels
- Remote operation of watertight doors

Test

The topic is finished with an internal test in writing.

ELECTRO TECHNOLOGY

Purpose

The trainee should obtain elementary knowledge of the ships electricity supply, including generators, system structure and consumers. The knowledge must reach such a level that the trainee will not expose him or herself to any personal risk or cause any breakdowns.

Objective

Upon completing the education, the trainee should:

- Be able to identify, on a chart or diagram, the main components in the network of a marine main power supply, including emergency power supplies
- Be able to explain the reason for applying overload circuit breakers in the main distribution network
- Have knowledge of normally used voltages and their use, including safety voltage and battery supply
- Be able to identify situations where the handling of electrical components can cause danger in terms of contact, short circuit or fire
- Have knowledge of the dangers connected to the use of electrical welding tools
- Be able to explain how the power supply is “shut down” in normal, as well as in emergency conditions

Teaching aids and facilities

- The engine compartment
- Textbooks and handouts

Additional subjects can be included, such as:

- Controller techniques (Reading of diagrams, Main power-supply chart, Documentation, Outline of alarm systems)
- Process control (controller circuits, PID-control, exercises with controller circuits, measuring and adjusting controller circuits)

Test

The topic is finished with an internal test in writing.

MARITIME ENGLISH

Purpose

The trainee should obtain such skills in maritime English that he or she understands normally occurring written guidelines and instructions and are able to communicate orally with regard to the daily duty on board, including watch-keeping duty.

Objective

Upon completing the education, the trainee should:

- Possess a basic active English vocabulary within Marine technology, Maritime engineering and Mechanical workshop techniques
- Be able to understand English signs and markings that are common in ships and harbours, as well as understand the basic safety- and working procedures in writing and written instructions of similar kind
- Be able to have a dialogue in English about observations, incidents and occurrences connected to the daily ship's routines
- Possess an active English vocabulary on watch keeping, sufficient to be able to explain routines and commands related to the mooring deck-, bridge- and engine room duties

Teaching aids and facilities

- Text books, daily routines, the crew.

The teaching comprises

All topics of the education, are taught in English.

Test

The topic is finished with an internal test in writing.

OCCUPATIONAL SAFETY/WORKING ENVIRONMENT:

Purpose:

The trainee should have knowledge of general safety- and environmental conditions and hazards of ships.

Furthermore, the trainee should know the use of all personal means of protection and be able to apply them correctly.

Objective

Upon completing the education, the trainee should:

- Be able to explain the use of personnel protective and safety equipment used onboard, and be able to use these correctly
- Be able to explain the use of protective and safety equipment used in connection with work and traffic onboard ships, and be able to use these correctly
- Have knowledge of rules and directives on working- and occupational hazards and the safety organization in merchant vessels
- Have knowledge of the marking and handling of
- Be able to identify the markings on hazardous substances and describe the necessary safety precautions

Teaching aids and facilities

- Text book
- Safety equipment
- Videos
- IMDG-code, MFAG, EMS
- Measuring equipment

The teaching comprises

- Accidents, causes and prevention
- Personnel safety equipment
- Consideration of possible dangers and dangerous actions
- Ergonomics, lifting techniques
- Safety organization onboard
- Dangerous goods
- Work space assessment and work space manual
- ISM and SMS, MAL-code
- Maritime Labour Convention (MLC)

The teaching is primarily theory, but topics are an integral part of the maintenance work, and practical seamanship carried out during a voyage.

Part of the teaching is planned as isolated maintenance projects requiring interdisciplinary problem solving capacities.

Test

The topic is finished with an internal test in writing.

FIRE FIGHTING

Training and education in fire-fighting and smoke diving

The training and education in fire-fighting and smoke diving in accordance with STCW code table A-VI/1-2 is carried out at “Nordjysk Brand- og Redningskole”, who plans and documents the training.

WATCH KEEPING DUTY, INTERNATIONAL REGULATIONS FOR PREVENTING COLLISIONS AT SEA, AND NAVIGATION

Purpose

The trainee should obtain knowledge on basic principles and directives in force concerning watch keeping duties onboard ships. The trainee must be able meet the standards laid down in STCW code, II/4 during the first period of sailing.

Objective

Upon completing the education, the trainee should:

- Know the directive in force on watch keeping onboard ships, and be able to explain the duties concerning the ordinary seaman in watch schedules
- Be able to understand and carry out all helm orders in Danish and in English
- Be able to understand and use the international regulations for preventing collisions at sea, as far as distress signals, lights and shapes, steering and sailing rules and commonly used signal flags goes
- Be acquainted with the compass, and the use of true and relative bearings
- Be acquainted with the sea charts, contents, including IALA A and knowledge about basic navigation

Teaching aids

- The “COLREGS”
- The departmental order from the Danish Maritime Authority on watch keeping onboard ships
- The Training Ship DANMARK

The teaching

- The topic is covered as a combination of the topic Safety at Sea, and the duties carried out as helmsman, look out, duty trainee on the bridge and the “know your vessel” procedures described in the SMS.

Test

An internal verbal test in watchkeeping duties, colregs and navigation.

MARLINSPIKE SEAMANSHIP (Practical Seamanship I)

Purpose

The trainee should obtain such skills that he or she can apply and develop them under guidance and professional supervision when doing practical assignments in connection with normal work on board the ship, including normal maintenance, working with mooring, anchoring, lashing, pilot ladder, gangway and operation of capstan and windlass.

Objective

Upon completing the education, the trainee should be able to:

- Use the knots and hitches relevant and suitable in any given situation, and have knowledge on advantages and disadvantages when using a specific knot or hitch
- Singlehandedly perform eye splices on twisted three-stranded rope, eight-stranded plaited rope and steel wire
- Rig a tackle, a purchase, a boatswain's chair, a pilot ladder and a stage
- Explain and show ordinary mooring, including the use of windlass, and rigging the gangway
- Show lashing of goods as directed

Teaching aids

- Text book, hand outs
- Cordage
- Tackles, purchases
- Boatswain's chair, stage plank
- Pilot ladder

The teaching comprises

- Knots and hitches
- Common whipping, sail maker's whipping
- Seizing, musing, and rope lashings
- Tackles, purchases
- Boatswains chair, stage
- Bollards, bitts, mooring lines, heaving lines
- Splices on twisted three-stranded rope, eight-stranded plaited rope and steel wire

Test

A continuous evaluation of finished works as well as a final, internal test in:

- Knots and hitches
- Eye splices on twisted three-stranded rope, eight-stranded plaited rope and steel wire
- Relevant whippings on the above mentioned works

MARINE TECHNOLOGY

Purpose

The trainee should obtain theoretical and practical knowledge of the structure of ships, ships fitting and equipment. The trainee should be familiar with the safety precautions concerning the use of loading gear, lifting gear, slings etc. Furthermore, the student must obtain knowledge of the terms draught, trim, and be informed about the term stability and the factors influencing stability.

Objective

Upon completing the education, the trainee should be able to:

- Describe common types of ships, their internal construction and equipment, using the proper names and terms
- Talk about the terms: centre of gravity, centre of buoyancy, draught, and trim
- Calculate SWL on wires and ropes, given the safety factor and breaking stress point, and explain when discarding is needed
- Be able to explain the safety regulations concerning loading/lifting gear
- Recognize computer software for stability calculations

Teaching aids

- Text books
- Lashing gear
- Mooring decks
- General ships arrangement plans
- Videos
- PC-software
- Training Ship "Danmark"

The teaching comprises

- SWL
- Lashing gear
- Ropes, wires and chains
- Ships types, cargo types
- Ship's construction
- Anchors and anchor handling gear
- Rudder, helm and connections
- Hatches
- Ventilation and cargo handling
- Loading gear and slinging
- Mooring
- Weights and measures
- Ships measures
- Centre of gravity
- Centre of buoyancy
- PC- software

Test

The topic is finished with an internal test in writing.

SAFETY AT SEA

Purpose

That the trainee obtains such knowledge of ships' safety organization and safety drills (boat, fire and MOB drills) that he or she can take part in the drills at a functional level. The trainee should be able to apply personal life-saving appliances and survival techniques and under guidance and professional supervision must furthermore be able to apply and maintain ships' safety equipment, including lifeboats and rafts.

Objective

Upon completing the education, the trainee should be able to:

- Test and use personal safety equipment in an appropriate way
- Recognize the alarm signals used onboard merchant vessels, explain the muster bills use and construction and act according to these
- Use pyrotechnics for emergency signaling and explain the use of emergency radios and - beacons
- Explain the use and contents of a life raft, and the precautions for staying in life rafts
- Demonstrate the launching of lifeboats and – rafts as well as MOB boat
- Find knowledge on maintenance of merchant vessels safety equipment

Teaching aids

- Textbooks
- SOLAS- videos
- Personal lifesaving equipment
- Davits and crane
- MOB-boat
- Lifeboats
- Equipment for life rafts
- Inflatable life raft
- Immersion suit

The teaching comprises

- Alarm signals, Safety muster bills
- Organization of the rescue service
- Personal lifesaving equipment
- Launching, sailing and recovery of MOB-boats and life boats
- Pyrotechnics
- Stay in life raft
- Righting capsized life raft and entering from the sea
- Marine Escape Slides and – Chutes
- Use of immersion suit
- Use of helicopter hoist belt
- Davit launched life raft
- Checking and maintenance of lifesaving equipment

Test

Internal practical tests are carried out at MARTEC's shore facility.

Internal written test is carried out on board as a final test on the subject.

HEALTH CARE AND FIRST AID

Purpose

That the trainee acquires such theoretical and practical skills that he or she will be able to give first aid at accidents and suddenly occurred illness. Furthermore, to give the trainee knowledge of general health conditions with special relevance to the seafarer.

Objective

Upon completing the education, the trainee should be able to:

- Pass a test of proficiency given by the International Red Cross
- Recognize risks of infection by tropical diseases, and know which precautions to take
- Explain the effects of overheating and under cooling the human body, especially hypothermia
- Explain special precautions to take when in the tropics or in cold areas
- Recognize venereal diseases
- Explain the risk of drugs
- Explain the purpose of personal hygiene
- Achieve knowledge about Maritime Life Support and the use of Radio Medical

Teaching aids

- Textbooks
- Folders, videos
- First aid dummy, blankets etc.
- Stretcher, band aids etc.
- Resuscitation equipment

The teaching comprises

- First aid, basics
- Transportation of an injured person
- Tropical diseases and prevention of same
- Conduct in the tropics and in cold areas
- Hypothermia
- Survival in cold water
- Venereal diseases
- AIDS
- Drugs

Test

Continuous evaluation and an internal test in writing, to the level of a first aid certificate of proficiency.

TANKER FAMILIARIZATION COURSE

Purpose

That the trainee obtains such knowledge of the safety and health conditions risks related to cargo handling on board tankers that he or she can contribute to the work on board, subject to regulations in force. When examination is passed, a separate certificate for attending a Tanker Familiarization Course according to STCW regulation V/1 is issued.

Objective

Upon completing the education, the trainee should be able to:

- Explain risks and safety equipment connected to oil tanker operations
- Explain various cargoes specific data, including their toxicity
- Explain the necessary measures in case of waste, skin contact, and inhalation of cargo

Teaching aids

- Textbooks
- Videos
- IMDG code
- Safety equipment

The teaching comprises

- Tanks
- The terms: Gas-freeing, Press-Vac, inert and vapour return
- Cargo types
- Tank cleaning
- Environmental protection rules
- Gas tankers

The module is combined with the topics Marine technology and Occupational safety.

Test

Continuous evaluation and an internal test in writing, to the level of STCW V/1.

MAINTENANCE (Practical Seamanship II)

Purpose

That the trainee obtains such knowledge and skills that he or she can carry out ordinary cleaning and maintenance tasks onboard a ship, using the right tools, power tools, means, cleansing agents, detergents, paint, organic solvents, etc with regards to all safety and health precautions in force.

Objective

Upon completing the education, the trainee should be able to:

- In theory or practice, on their own, carry out minor jobs concerning the use of cleansing agents, detergents, paint, organic solvents, etc.
- Explain the meaning of risk-, security- and danger symbols, paint codes etc. and the use of protective gear when working with paint and cleansing agents of various types
- Explain the use of lubrication programmes and schedules, and the importance of correct applied lubricants
- Carry out a lubricating job, using a lubrication programme/schedule

Teaching aids

- Textbooks
- Data sheets on paint and cleansing agents etc.

- Videos
- Cleaning products
- Power tools, electrical and pneumatic
- Lubricants and connected equipment

The teaching comprises

- Principles in maintenance
- Principles in cleaning
- Cleaning methods, cleansing agents, detergents and tools
- Safety when cleaning
- Steel, corrosion, degrees of cleaning and preparation before painting
- Paint and Paints types and systems
- Use of data sheet on paint
- Organic solvents and their effect on humans
- Safety when painting
- Lubricating
- Use of power tools

Test

Continuous monitoring during maintenance tasks onboard, and an internal, final written test

COURSE IN HYGIENE FOR SAILORS

Purpose

That the trainee acquires such theoretical and practical skills that he or she will be able to handle provisions on board a vessel.

Objective

Upon completing the education, the trainee should be able to:

- Pass a test of proficiency the guidelines given by the 'Fødevarestyrelsen'
- Participate in practical work in the Galley on board for at least 12 hours

Teaching aids

- General Galley Cleaning Booklet
- Folders, posters
- Movie 'Hygiene in the galley'
- Equipment for testing micro organisms
- The Galley, Bread room, Bath rooms, Refrigerator, Freezer

The teaching comprises

- Internal control
- Ordinary micro biology
- The principles of hygiene and personal hygiene.
- Regulations on provisions, the work of the national Veterinary and Food Administration

Test

Continuous evaluation and an internal test in writing, to the level that qualifies the individual to handle provisions on board a vessel.

SOCIAL AND LABOUR LEGISLATION

Purpose

That the trainee obtains knowledge on relevant laws and regulations in order to be prepared for the special conditions in force at sea.

Objective

Upon completing the education, the trainee should be able to:

- Explain about Rest Hours regulations
- To fill at Rest Hour Sheet
- Explain which documents and papers are needed in order to sign on a vessel as a seaman
- Explain about the most common 'duties and rights' for a seaman according to Danish legislation

Teaching aids

- Executive Order of Rest Hours
- The Legislation of a Seaman's Act
- Text book from Danish Maritime Authorities: "The sailors right and duties"

The teaching comprises

- Information on employment and which papers and documents a sailor needs before signing on
- Seamen's act, including the terms of hire, and the duties and rights of a sailor.
- Rest hours and the purpose of the legislation
- Instruction in how to fill a Rest Hour Sheet

Test

Internal test in writing.

WORKSHOP AND TECHNICAL DOCUMENTATION

Objective

The student must pass a theoretical and practical training, which helps to keep craft skills that are useful for Ordinary seaman.

The student should then be able to use simple tools for performing minor maintenance tasks.

The student must also be able to outline simple working drawings, and explain the production of iron and steel.

Practical the student must produce a marlinspike and a threaded plate.

Must be able to perform various welding methods with coated electrodes and some welding processes with oxygen / gas.

Grades are awarded in all parts items added together into a single character.

Score is the new 12 scale and the test are passed if the overall grade is 02 or above.

It is allowed to obtain 00 or less in one single discipline.